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EXAMINER
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MAIS, MARK A

ART UNIT	PAPER NUMBER
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2616

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/25/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/084,559

Applicant(s)

PANG ET AL.

Examiner

Mark A. Mais

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 January 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 3-7, 9-16, and 18-20 are rejected under 35 U.S.C. 102(e) as being anticipated by Ramamurthy et al. (USP 6,304,551).

3. With regard to claim 1, Ramamurthy et al. discloses a system for smoothing jitter experienced by data packets in transmission from a transmitter to a receiver , comprising:

a delay estimator [device for estimation, col. 1, lines 7-8; Fig. 13, UPC selector 115, col. 21, lines 32-43] adapted to estimate an adaptive packet delay histogram [statistically mapping the data traffic stream to usage parameter control (UPS) values, col. 2, lines 66-67; characterizing the stream statistically over a time interval, col. 5, lines 41-42], having a mean, wherein said packet delay histogram is a function of the delays experienced by said data

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packets in transmission from a transmitter to a receiver *and the number of packets received at the receiver* [a mean delay rate of the cell stream (from a source, Abstract; interpreted as received at the receiver), col. 6, lines 35-36; which is estimated over a time window, col. 9, lines 7-9; *see also* Figs. 6-7, mean delays are plotted, col. 3, lines 50-55; a histogram is merely a graphical display of tabulated parameters],

a playout delay evaluator in communication with the delay estimator [interpreted by the examiner as the portion of the device which performs the dynamic renegotiation of the UPC parameters, col. 1, lines 13-15; Fig. 13, UPC Shaper 125, col. 21, lines 24-31] and adapted to calculate a playout time [the variance of the delay (delay jitter) is calculated, col. 12, lines 1-20; wherein this statistical model affirmatively states it shall stay away from the mean by utilizing the multiple calculated delay variances, (col. 12, lines 19-20, *emphasis added*)], wherein the calculation of said playout time utilizes said mean and a first variance derived from a portion of said packet delay histogram [the playout time (Delay) is a function of the bucket size  $B[C_s, u, D]$ , and, thus, the examiner has interpreted the calculation of the bucket size as a calculation of the playout time; *see also* the mean rates are mapped in Fig. 6, which discloses a constant expected delay curve, col. 11, lines 30-50]; and

a playout buffer monitor adapted to buffer the data packets for the delay amount determined by the playout delay evaluator and then output the delayed data packets [a playout buffer monitor is inherently contained in the UPC shaper 125 in order to buffer the packets in accordance with it's calculations and thus, in order to "shape" the data stream, col. 21, lines 24-31].

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4. With regard to claim 2, Ramamurthy et al. that the delay is calculated by subtracting the first variance from a mean delay experienced by data packets in transmission from a transmitter to a receiver **[the variance of the delay (Fig. 6, col. 11, lines 30-45) is calculated by subtracting the first and second moment delays (col. 11, line 60 to col. 12, line 33). Thus, the delay is necessarily calculated by subtracting the first variance from the mean delay]**.

5. With regard to claim 3, Ramamurthy et al. discloses that the variance is calculated based upon a portion of the histogram that is less than the mean delay **[the statistical calculation of the variance is bounded by the mean delay and, therefore, is less than the mean delay, col. 12, lines 1-20]**.

6. With regard to claim 4, Ramamurthy et al. discloses that the first variance is calculated using a second variance calculated from a portion of the histogram that differs from the portion used to derive the first variance **[this is interpreted by the examiner as the iterative nature of the playout delays over a finite timeframe such that a first sampled iteration produces the claimed second variance, and a subsequent iteration produces the claimed first variance; new estimates of the mean rate (and, by definition, variances), are taken over a weighted average, col. 16, lines 64-67]**.

7. With regard to claim 5, Ramamurthy et al. discloses 5. The system of claim 1, further comprising a delay smoother to control changes in playout time **[this is interpreted as the combination of the UPC selector 115 and the signaling module 150 which detect changes in**

**the UPC parameters and performs network renegotiation requests, col. 21, lines 44-57; thus, the changes in playout time are managed in part, through the acceptance/rejection, by the network 14 (Fig. 6), of the transmission (playout time)].**

8. With regard to claim 6, Ramamurthy et al. discloses 6. The system of claim 1, wherein the playout time is further controlled by expanding increases in playout time and limiting decreases in playout time **[this is inherently what a jitter smoothing estimation process performs: in order to smooth jitter, the estimation (statistically mapping UPC values) system must necessarily create more increased-playout-times while limiting decreased-playout-times when using a statistical process which affirmatively includes means and variances for packet delay modeling and calculating buffer sizes].**

9. With regard to claim 7, Ramamurthy et al. discloses 7. A method for substantially reducing jitter experienced by data packets in transmission from a transmitter to a receiver, comprising:

estimating a mean delay using a packet delay histogram **[statistically mapping the data traffic stream to usage parameter control (UPS) values, col. 2, lines 66-67; characterizing the stream statistically over a time interval, col. 5, lines 41-42]** *wherein said packet delay histogram is a function of the delays experienced by said data packets in transmission from a transmitter to a receiver and the number of packets received at the receiver [a mean delay rate of the cell stream (from a source, Abstract; interpreted as received at the receiver), col. 6, lines 35-36; which is estimated over a time window, col. 9, lines 7-9; see also Figs. 6-7,*

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mean delays are plotted, col. 3, lines 50-55; a histogram is merely a graphical display of tabulated parameters],

deriving a first variance from a first portion of said histogram [the playout time (Delay) is a function of the bucket size  $B[C_s, u, D]$ , and, thus, the examiner has interpreted the calculation of the bucket size—which uses the variance—as a calculation of the playout time; *see also* the mean rates are mapped in Fig. 6, which discloses a constant expected delay curve, col. 11, lines 30-50];

deriving a second variance from a second portion of said histogram, wherein said first portion and second portion are not identical [this is interpreted by the examiner as the iterative nature of the playout delays over a finite timeframe such that a first sampled iteration produces the claimed second variance, and a subsequent iteration produces the claimed first variance; new estimates of the mean rate (and, by definition, variances), are taken over a weighted average, col. 16, lines 64-67];

setting a delay equal to a function of the mean delay and the first variance [the variance of the delay (delay jitter) is calculated, col. 12, lines 1-20; wherein this statistical model affirmatively states it shall stay away from the mean by utilizing the multiple calculated delay variances, (col. 12, lines 19-20, *emphasis added*)];

setting a buffer size equal to a function of the first and second variance and buffering data packets in accordance with said buffer size and delay [this is interpreted by the examiner as the iterative nature of the playout delays over a finite timeframe such that a first sampled iteration produces the claimed second variance, and a subsequent iteration produces the claimed first variance; new estimates of the mean rate (and, by definition, variances), are

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taken over a weighted average, col. 16, lines 64-67; buffers are inherently used for the buckets in order to buffer the packets in accordance with it's calculations and thus, in order to "shape" the data stream, col. 21, lines 24-31].

10. With regard to claim 8, Ramamurthy et al. discloses 2. The system of claim 1, wherein the delay is calculated by subtracting the first variance from a mean delay experienced by data packets in transmission from a transmitter to a receiver [the variance of the delay (Fig. 6, col. 11, lines 30-45) is calculated by subtracting the first and second moment delays (col. 11, line 60 to col. 12, line 33). Thus, the delay is *necessarily* calculated by subtracting the first variance from the mean delay].

11. With regard to claim 9, Ramamurthy et al. discloses 9. The method of claim 7, wherein the buffer size is equal to the sum of the first and second variances [it is inherent that, using a weighted average over time of the variances of the bucket size, that the size includes at least the weighted sum of the measured variances, col. 16, lines 64-67].

12. With regard to claim 10, Ramamurthy et al. discloses 10. A method for substantially reducing jitter experienced by data packets in transmission from a transmitter to a receiver, comprising:

estimating a mean delay using a packet delay histogram [statistically mapping the data traffic stream to usage parameter control (UPS) values, col. 2, lines 66-67; characterizing the stream statistically over a time interval, col. 5, lines 41-42] wherein said packet delay



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*histogram is a function of the delays experienced by said data packets in transmission from a transmitter to a receiver and the number of packets received at the receiver [a mean delay rate of the cell stream (from a source, Abstract; interpreted as received at the receiver), col. 6, lines 35-36; which is estimated over a time window, col. 9, lines 7-9; see also Figs. 6-7, mean delays are plotted, col. 3, lines 50-55; a histogram is merely a graphical display of tabulated parameters];*

deriving a first variance from a first portion of said histogram [the variance of the delay (delay jitter) is calculated, col. 12, lines 1-20; wherein this statistical model affirmatively states it shall stay away from the mean by utilizing the multiple calculated delay variances, (col. 12, lines 19-20, *emphasis added*)];

deriving a second variance as a function of the first variance [this is interpreted by the examiner as the iterative nature of the playout delays over a finite timeframe such that a first sampled iteration produces the *claimed* second variance, and a subsequent iteration produces the *claimed* first variance; new estimates of the mean rate (and, by definition, variances), are taken over a weighted average, col. 16, lines 64-67; buffers are inherently used for the buckets in order to buffer the packets in accordance with it's calculations and thus, in order to "shape" the data stream, col. 21, lines 24-31];

setting a delay equal to a function of the mean delay and the first variance [the playout time (Delay) is a function of the bucket size  $B[C_s, u, D]$ , and, thus, the examiner has interpreted the calculation of the bucket size—which uses the variance—as a calculation of the playout time; *see also* the mean rates are mapped in Fig. 6, which discloses a constant expected delay curve, col. 11, lines 30-50];

setting a buffer size equal to a function of the first and second variance; and buffering data packets in accordance with said buffer size and minimum delay **[this is interpreted by the examiner as the iterative nature of the playout delays over a finite timeframe such that a first sampled iteration produces the *claimed* second variance, and a subsequent iteration produces the *claimed* first variance; new estimates of the mean rate (and, by definition, variances), are taken over a weighted average, col. 16, lines 64-67; buffers are inherently used for the buckets in order to buffer the packets in accordance with it's calculations and thus, in order to "shape" the data stream, col. 21, lines 24-31].**

13. With regard to claim 11, Ramamurthy et al. discloses 11. The method of claim 10, wherein the second variance is equal to the first variance multiplied by a constant **[This is interpreted by the examiner as the situation where the first and second variances, for the measured time period, are equal, and the constant is one (1)].**

14. With regard to claim 12, Ramamurthy et al. discloses 12. The method of claim 10, wherein the second variance is equal to a constant minus the first variance **[This is interpreted by the examiner as the situation where the first and second variances, because they are the square of a standard deviation, are equal when the value of the constant is zero (0)].**

15. With regard to claim 13, Ramamurthy et al. discloses 13. A system for smoothing jitter experienced by data packets in transmission from a transmitter to a receiver, comprising:

a delay estimator [device for estimation, col. 1, lines 7-8; Fig. 13, UPC selector 115, col. 21, lines 32-43] for estimating a packet delay histogram [statistically mapping the data traffic stream to usage parameter control (UPS) values, col. 2, lines 66-67; characterizing the stream statistically over a time interval, col. 5, lines 41-42] *wherein said packet delay histogram is a function of the delays experienced by said data packets in transmission from a transmitter to a receiver and the number of packets received at the receiver* [a mean delay rate of the cell stream (from a source, Abstract; interpreted as received at the receiver), col. 6, lines 35-36; which is estimated over a time window, col. 9, lines 7-9; *see also* Figs. 6-7, mean delays are plotted, col. 3, lines 50-55; a histogram is merely a graphical display of tabulated parameters]; and

a playout buffer monitor [a playout buffer monitor is inherently contained in the UPC shaper 125 in order to buffer the packets in accordance with it's calculations and thus, in order to "shape" the data stream, col. 21, lines 24-31 having a buffer size equal to the sum of a first variance and a second variance [it is inherent that, using a weighted average over time of the variances of the bucket size, that the size includes at least the weighted sum of the measured variances, col. 16, lines 64-67], wherein the first variance is calculated from a first portion of said packet delay histogram and the second variance is calculated from a second portion of said packet delay histogram [this is interpreted by the examiner as the iterative nature of the playout delays over a finite timeframe such that a first sampled iteration produces the claimed second variance, and a subsequent iteration produces the claimed first variance; new estimates of the mean rate (and, by definition, variances), are taken over a weighted average, col. 16, lines 64-67], and

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wherein said playout buffer monitor buffers the data packets for a minimum delay amount determined by the first variance [a playout buffer monitor is inherently contained in the UPC shaper 125 in order to buffer the packets in accordance with it's calculations and thus, in order to "shape" the data stream, col. 21, lines 24-31; the playout time (Delay) is a function of the bucket size  $B[C_s, u, D]$ , and, thus, the examiner has interpreted the calculation of the bucket size—which uses the variance—as a calculation of the playout time; *see also* the mean rates are mapped in Fig. 6, which discloses a constant expected delay curve, col. 11, lines 30-50]

16. With regard to claim 14, Ramamurthy et al. discloses 14. A system for managing jitter experienced by data packets in transmission from a transmitter to a receiver, comprising:

a delay estimator [device for estimation, col. 1, lines 7-8; Fig. 13, UPC selector 115, col. 21, lines 32-43] for estimating a packet delay histogram [statistically mapping the data traffic stream to usage parameter control (UPS) values, col. 2, lines 66-67; characterizing the stream statistically over a time interval, col. 5, lines 41-42] and a mean delay, *wherein said packet delay histogram is a function of the delays experienced by said data packets in transmission from a transmitter to a receiver and the number of packets received at the receiver* [a mean delay rate of the cell stream (from a source, Abstract; interpreted as received at the receiver), col. 6, lines 35-36; which is estimated over a time window, col. 9, lines 7-9; *see also* Figs. 6-7, mean delays are plotted, col. 3, lines 50-55; a histogram is merely a graphical display of tabulated parameters]; and

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a playout delay evaluator in communication with the delay estimator [interpreted by the examiner as the portion of the device which performs the dynamic renegotiation of the UPC parameters, col. 1, lines 13-15; Fig. 13, UPC Shaper 125, col. 21, lines 24-31] and adapted to determine a plurality of variances based upon a plurality of portions of the packet delay histogram [the variance of the delay (delay jitter) is calculated, col. 12, lines 1-20; wherein this statistical model affirmatively states it shall stay away from the mean by utilizing the multiple calculated delay variances, (col. 12, lines 19-20, *emphasis added*)], wherein the calculation of a first variance is used to determine a delay and the calculation of a second variance is used to determine a buffer size [the playout time (Delay) is a function of the bucket size  $B[C_s, u, D]$ , and, thus, the examiner has interpreted the calculation of the bucket size—which uses the variance—as a calculation of the playout time; *see also* the mean rates are mapped in Fig. 6, which discloses a constant expected delay curve, col. 11, lines 30-50]; and

a playout buffer monitor having the calculated buffer size wherein the playout buffer monitor buffers the data packets selected by the playout delay evaluator for the delay and then outputs the delayed data packets [a playout buffer monitor is inherently contained in the UPC shaper 125 in order to buffer the packets in accordance with its calculations and thus, in order to “shape” the data stream, col. 21, lines 24-31].

17. With regard to claim 15, Ramamurthy et al. discloses 15. A media processing system for transmitting, receiving, and processing media across networks wherein the media processing

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system has substantially reduced jitter experienced by data packets in transmission from a transmitter to a receiver, comprising:

a plurality of media processors wherein the media processor is capable of processing media [interpreted by the examiner as the portion of the device which performs the dynamic renegotiation of the UPC parameters, col. 1, lines 13-15; Fig. 13, UPC Shaper 125, col. 21, lines 24-31];

a plurality of packet processors in communication with at least one of said media processors wherein the packet processor is capable of packetizing processed media [device for estimation, col. 1, lines 7-8; Fig. 13, UPC selector 115, col. 21, lines 32-43];

a host processor in communication with at least one said packet or media processors [Fig. 13, Change Detector 120]; and

a playout buffer, implemented in either the media processor or packet processor [a playout buffer monitor is inherently contained in the UPC shaper 125 in order to buffer the packets in accordance with it's calculations and thus, in order to "shape" the data stream, col. 21, lines 24-31], having a buffer size equal to a function of a first variance and a second variance [this is interpreted by the examiner as the iterative nature of the playout delays over a finite timeframe such that a first sampled iteration produces the *claimed* second variance, and a subsequent iteration produces the *claimed* first variance; new estimates of the mean rate (and, by definition, variances), are taken over a weighted average, col. 16, lines 64-67] and using a delay equal to a function of a mean delay and the first variance wherein said mean delay [the playout time (Delay) is a function of the bucket size  $B[C_s, u, D]$ , and, thus, the examiner has interpreted the calculation of the bucket size as a calculation of the

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**playout time; *see also* the mean rates are mapped in Fig. 6, which discloses a constant expected delay curve, col. 11, lines 30-50], first variance and said second variance are determined from a packet delay histogram, *wherein said packet delay histogram is a function of the delays experienced by said data packets in transmission from a transmitter to a receiver and the number of packets received at the receiver* [statistically mapping the data traffic stream to usage parameter control (UPS) values, col. 2, lines 66-67; characterizing the stream statistically over a time interval, col. 5, lines 41-42; *See also* a mean delay rate of the cell stream (from a source, Abstract; interpreted as received at the receiver), col. 6, lines 35-36; which is estimated over a time window, col. 9, lines 7-9; *see also* Figs. 6-7, mean delays are plotted, col. 3, lines 50-55; a histogram is merely a graphical display of tabulated parameters].**

18. With regard to claim 16, Ramamurthy et al. discloses 16. The system of claim 15, wherein the second variance is equal to a function of the first variance and a constant [**This is interpreted by the examiner as the situation where the first and second variances, for the measured time period, are equal, and the constant is one (1).**]

19. With regard to claim 17, Ramamurthy et al. discloses 2. The system of claim 1, wherein the delay is calculated by subtracting the first variance from a mean delay experienced by data packets in transmission from a transmitter to a receiver [**the variance of the delay (Fig. 6, col. 11, lines 30-45) is calculated by subtracting the first and second moment delays (col. 11, line**

60 to col. 12, line 33). Thus, the delay is *necessarily* calculated by subtracting the first variance from the mean delay].

20. With regard to claim 18, Ramamurthy et al. discloses 18. The system of claim 15, wherein the first variance is derived from a portion of the histogram that is less than the mean delay [the statistical calculation of the variance is bounded by the mean delay and, therefore, is less than the mean delay, col. 12, lines 1-20]..

21. With regard to claim 19, Ramamurthy et al. discloses 19. The system of claim 15, wherein the second variance is derived from a portion of the histogram that differs from the portion used to derive the first variance [this is interpreted by the examiner as the iterative nature of the playout delays over a finite timeframe such that a first sampled iteration produces the *claimed* second variance, and a subsequent iteration produces the *claimed* first variance; new estimates of the mean rate (and, by definition, variances), are taken over a weighted average, col. 16, lines 64-67].

22. With regard to claim 20, Ramamurthy et al. discloses 20. A media processing system for transmitting, receiving, and processing media across networks, comprising:

a plurality of media processors, each of said media processors having *at least two* processing layers *operating in parallel* [it is inherent that processors run on several, parallel processing layers at one time such as, for example, the layers of the Open Source Interconnection (OSI) Model] wherein each processing layer has at least one processing unit, at



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least one program memory, and at least one data memory, each of said processing unit, program memory, and data memory being in communication with one another **[interpreted by the examiner as the portion of the device which performs the dynamic renegotiation of the UPC parameters, col. 1, lines 13-15; Fig. 13, UPC Shaper 125, col. 21, lines 24-31; furthermore, it is inherent that a processor has program memory, data memory (RAM, ROM, hard drive, etc.) in communication with the processor];**

a plurality of packet processors in communication with at least one of said media processors wherein each of said packet processors is capable of packetizing processed media **[device for estimation, col. 1, lines 7-8; Fig. 13, UPC selector 115, col. 21, lines 32-43];**

a host processor in communication with at least one of said plurality of packet processors or at least one of said plurality of media processors **[Fig. 13, Change Detector 120];** and

a playout buffer, implemented in either the at least one of said plurality of packet processors or at least one of said plurality of media processors **[a playout buffer monitor is inherently contained in the UPC shaper 125 in order to buffer the packets in accordance with it's calculations and thus, in order to "shape" the data stream, col. 21, lines 24-31],** having a buffer size equal to a function of a first variance and a second variance **[this is interpreted by the examiner as the iterative nature of the playout delays over a finite timeframe such that a first sampled iteration produces the *claimed* second variance, and a subsequent iteration produces the *claimed* first variance; new estimates of the mean rate (and, by definition, variances), are taken over a weighted average, col. 16, lines 64-67]** wherein said first variance and said second variance are determined from a packet delay histogram **[statistically mapping the data traffic stream to usage parameter control (UPS)**

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values, col. 2, lines 66-67; characterizing the stream statistically over a time interval, col. 5, lines 41-42] *wherein said packet delay histogram is a function of delays experienced by said data packets in transmission from a transmitter to a receiver and the number of packets received at the receiver [a mean delay rate of the cell stream, col. 6, lines 35-36; which is estimated over a time window, col. 9, lines 7-9; see also Figs. 6-7, mean delays are plotted, col. 3, lines 50-55; See also a mean delay rate of the cell stream (from a source, Abstract; interpreted as received at the receiver), col. 6, lines 35-36; which is estimated over a time window, col. 9, lines 7-9; see also Figs. 6-7, mean delays are plotted, col. 3, lines 50-55; a histogram is merely a graphical display of tabulated parameters].*

### ***Claim Rejections - 35 USC § 103***

23. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

24. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ramamurthy et al. as applied to claim 20 above, further in view of Baker et al. (USP 6,519,259).

25. With regard to claim 21, Ramamurthy et al. discloses the use of real-time estimation of values in an ATM network [**Abstract**]. Moreover, Ramamurthy et al. discloses using this

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estimation to prevent jitter while corresponding to real-time bandwidth requirements.

Ramamurthy et al. achieves this by using a double-bucket method of delaying cells to smooth jitter **[Abstract]**. Ramamurthy et al. does not specifically disclose using echo cancellation and a scheduler, which performs encoding/decoding functions. These functions are well-known to those of ordinary skill in the art. Furthermore, Baker et al. discloses an apparatus for improving packet communications in order to satisfy bandwidth requirements **[Abstract]**. It does so by use of a packet scheduler 62, which encodes/decodes ATM packets and performs echo cancellation for those packet delays which exceed 25 ms **[Fig. 2, col. 6, line 50 to col. 7, line 23]**. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide task scheduling, packet encoding/decoding, as well as echo cancellation to prevent jitter in a packet stream through the use of packet delay/buffering methods.

### ***Response to Arguments***

26. Applicant's arguments filed on January 29, 2007 have been fully considered but they are not persuasive.

27. Applicants argue that the cited reference does not solve the same problems that Applicant's invention does **[See Applicant's Amendment dated January 29, 2007, page 10, paragraph 2]**. Applicants also argue that the calculation of the mean delay in the cited reference is calculated differently than Applicant's delays **[See Applicant's Amendment dated January 29, 2007,**

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**page 10, paragraph 3 to page 11 paragraph 1].** Specifically, Applicant states the one of ordinary skill in the art would not use the parameters used in the cited reference for creating a packet delay histogram [See Applicant's Amendment dated January 29, 2007, page 11, paragraph 1]. The examiner respectfully disagrees.

28. First, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

29. Second, in response to applicant's argument that the histogram is used for a different reason than the one used in the cited reference, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

30. Applicants argue that although the mean cell delay and jitter are deployed in a manner similar to Applicant's invention, the calculations used are quite different [See Applicant's Amendment dated January 29, 2007, page 11, paragraphs 2-4]. The examiner respectfully agrees.

31. The examiner does not agree, however, that the different methods of coming up with the parameters are distinguished in the claims. For example, as stated in the rejections of the claims

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above, a mean delay rate of the cell stream (from a source [Abstract]; interpreted as received at the receiver) [col. 6, lines 35-36] is estimated over a time window [col. 9, lines 7-9] wherein the mean delays are plotted [col. 3, lines 50-55; Figs. 6-7]. A histogram is merely a graphical display of tabulated parameters.

32. Furthermore, the examiner interprets Applicant's arguments to mean that the claimed calculations are different. However, in response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., specific (i.e., different) statistical calculations) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

33. Applicants argue that it is not inherent that the processors in claim 20, operate on a plurality of processing layers operating in parallel to one another, and that, apparently, the cited reference does not [See Applicant's Amendment dated January 29, 2007, page 12, paragraphs 2-3]. The examiner respectfully disagrees.

34. As noted in the rejection for claim 20 above, it is inherent that processors run on several, parallel processing layers at one time such as, for example, the layers of the Open Source Interconnection (OSI) Model. It is also inherent that a processor has program memory, data memory (RAM, ROM, hard drive, etc.) in communication with the processor.

35. If Applicants mean to argue that the plurality of processors, each with its own program and data memory, perform specific parallel-processed tasks [on different/discrete parallel layers], such a limitation is not claimed. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., specific parallel-processed tasks performed by each individual processor in a plurality of processors) are not recited in the rejected claims. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

### ***Conclusion***

36. Accordingly, Applicant's amendment necessitated the new grounds of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

37. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be

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calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark A. Mais whose telephone number is 572-272-3138. The examiner can normally be reached on M-Th 5am-4pm.

39. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

40. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MAM  
April 4, 2007

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